1: Cunningham G-3 (1846-47) 1854 AJ4 W. Tibetans AJ4

136 No specimen of this magnificent goat has, I believe, yet been obtained by any naturalist, nor have I heard of any traveller who has seen the animal. I would suggest that it might be called *Capra megaceros*.

236 [136] Another species of wild goat is the Tibetan ibex, or *Skyin*.* Mr. Vigne procured a pair of horns that were four feet three inches in length. In his opinion the Skyin "is larger than the European ibex, and the horns are longer, more curved, and more tapering." The Skyin frequents the most inaccessible rocks, and the animal, when shot, is frequently much mutilated by its headlong plunge down some precipitous cliff. Vigne states that between one and two hundred of them are killed in Balti during the winter, when they are forced to descend into the valleys.† In Ladák they are also snared at night, and shot in the grey dawn of the morning, when they venture down to the streams to drink. They are killed for the sake of the soft under-fleece, which, in Kashmir, is called *Asali Tus*.‡ This is an exceedingly fine and soft wool of a light brown colour, which is exported to Kashmir, where it is used as a lining for shawls, woollen stockings, and gloves. It is also woven into a very fine cloth, called *Tusi*, of a soft and delicate texture, which is much prized for its warmth. The high price of the Tus is caused by the difficulty of procuring the animal, and by the uselessness of the hair. The person who separates the hair from the wool of the domestic shawl-

[224]

[434]

* *Skyin*; the female is called *Dan-mo*. In Kullu and Spiti, the Skyin is called Kyin; and Spiti is called Piti, but the spelling in Tibetan always preserves the initial *s*.

† Vigne's Travels, II. p. 279.

‡ اصلي توس means simply "genuine *Tus*," or the wool of the *wild* goat; *Tus* means "n ıture."

1: Cunningham G-3 (1846-47) 1854 AJ4 W. Tibetans AJ4

goat is paid by the hair itself, which is manufactured into coarse blanketing for tents, and twisted into ropes. But the hair of the wild goat is short, wiry, and coarse, and the cost for picking is charged to the price of the Tus, or fine wool. Moorcroft says that neither the domesticated shawl-goat, nor the Vigogna,* furnishes a wool so full and rich to the feel, nor has so fine a material ever yet graced a British loom.

The frequent occurrence of ibex-horns on the temples of Kanáwar, Láhul, and Chamba has often suggested to me the idea that a similar religious feeling amongst the Greeks may have prompted the dedication of real ox-skulls, perhaps of animals that were slain in sacrifice, in the ancient Hellenic temples. In process of time, when the rude posts became Doric pillars, and the rough ends of the sloping beams were carved into triglyphs, the real ox-skulls were supplanted by their sculptured representations, which afterwards adorned the metopes of the Doric frieze. At least it seems difficult to account for their frequent representation on any other supposition.

The *Shu* or Tibetan stag has been described by Mr. Hodgson† from a specimen obtained near Phári, in Tsáng, the central province of Tibet. A second specimen was procured from the district of Chúmbi, to the south of Phári, where the country is more wooded and less arid than most other districts of Tibet. In 1839 I procured a most magnificent pair of stag's horns from the upper glens of the Lidar valley, in Kashmir; and in 1847 I obtained a second but smaller pair from the same valley.‡ The former pair had six snags on each horn, and was

* Transactions Roy. As. Soc. I. p. 53.

† Journal As. Soc. Bengal, XIX. p. 466; and XIX. p. 518.

‡ See Plate VIII.

1: Cunningham G-3 (1846-47) 1854 AJ4 W. Tibetans AL4

439 In Kashmir the wool is sold by the trader to the [435] regular wool-merchants at an average price of Kashmiri Rs. 4. 8 a., or of Company's Rs. 2. 10 a. per seer. 236 It is then made over to the cleaners, to be cleared from the dirt and grease which still remain in it. This is effected by steeping it in a mash of rice for several days, disposed in alternate layers of wool and mash. The rice is first soaked for three or four days in water until it begins to smell; the water is then poured off, and the rice is bruised into a mash. After the wool has been soaked for a short time, it is pulled lightly but briskly into pieces, and rubbed between the hands. The mash is squeezed out, and the wool is left perfectly clean. The cleaning costs one and a quarter Kashmiri rupee per seer, or three-quarters of a Company's rupee.

The hair is next separated from the fine wool by the tedious process of picking by hand. Even after the wool [238] is woven into cloth, many people are employed to pick out the dark-coloured hairs by hand; and the wool itself is separated into two kinds, the white and the brown, which are spun into thread. This work is all done by the poorer classes. One seer of uncleaned wool yields

Of White wool	...	20½	Rs. weight, or	¼th.
Brown wool	...	5½	„	$\frac{1}{17}$th.
Common wool	...	54½	„	$\frac{1}{11}$ths.

The common wool is manufactured into the soft stuffs called pattu.

443 The thread is purchased from the *wool-merchants* by 435 the *thread-merchants*, who pay according to fineness, and afterwards sell it to the *shawl-merchants*, by whom it is made over to the *dyers*. The prices of the undyed threads are—

1; Cunningham G-3 (1846-47) 1854 AJ4 W. Tibetans AJ4

443
436

	Weight.		
Of very fine white single thread	1¼	Rupee for 1	Rupee.
„ „ double „	1½	„	„
„ light brown (*phiri*)	5¼	„	„
Fine white silky (*reshami*)	3¾	„	„
Very fine brown (*khudrang*)	3	„	„
Fine ditto ditto	4½	„	„

The thread-merchants are contented with the usual custom (*dasturi* of India) of half an anna in each rupee, or about six per cent.

I have now traced the gradual additions in price of the shawl-wool from the time that it leaves the hands of the producer, at one rupee per seer, until it is spun into thread and sold to the shawl-merchant at ten times the original price. About one-third of this increased price might be avoided by cleaning the wool more thoroughly in Ladák, and by the direct purchase by the shawl-merchant from the producer.

The intervention of three different traders, the Ladáki, and Kashmiri wool-merchant and the Kashmir thread-merchant, between the producer and the manufacturer, enhances the price by at least six per cent. each, or about twenty per cent. altogether.

439 The average quantity of shawl-wool exported to Kashmir is the same as in Moorcroft's time, about 800 loads, or 3,200 small maunds of sixteen seers each; and about [435] the same quantity is exported to all other places. The average price in Ladák is about two rupees per seer, or Rs. 2,04,000 (£20,400). Of the 6,400 maunds exported, about 4,000 maunds are imported from Chang-thang, Ruthog, and Ngári; and the remaining 2,400 maunds are the home produce of the highlands of Nubra, Ladák, 236 Zanskar, and Rukchu. As the usual yield of fine wool for shawls and *pattus* is half a seer, the total number of

1: Cunningham G-3 (1846-47) 1854 AJ4 W. Tibetans AJ4

goats in Ladák must be about 80,000. The average price of a shawl-wool goat is four rupees, and the total value of the flocks of Ladák Rs. 3,20,000, or £32,000.

Dog.—The domestic dog* of Ladak is the well-known shepherd's dog, or Tibetan mastiff. They have shaggy coats, generally quite black, or black and tan; but I have seen some of a light-brown colour. They are usually ill-tempered to strangers; but I have never found one that would face a stick, although they can fight well when attacked. The only peculiarity that I have noticed about them is that the tail is nearly always curled upward on to the back, where the hair is displaced by the constant rubbing of the tail.

II.—VEGETABLE PRODUCTIONS.

I.—TREES.

The vegetable productions of Ladák are few and unimportant. The trees consist of willow, two varieties of poplar,† a kind of tamarisk, the pencil-cedar, and the *Elæagnus Moorcroftii*.‡ The tamarisk and the pencil-

* The Tibetan name for a dog is *Khyi*.

† *gShol-po* and *dByar-pa*.

‡ Capt. Madden, in the Horticultural Society's Journal, has quoted a passage from Moorcroft, to the effect that "a few willows and poplars are the *only trees* in Ladák," and he then produces the authority of Capt. H. Strachey to show that Moorcroft was wrong. But the fact is, that Moorcroft is right *in what he does say*, for either Capt. Madden or Capt. Strachey has misquoted him. In his Travels, I. p. 267, Moorcroft distinctly states that willows and poplars are the *only timber-trees* in Ladák; and in I. p. 306, he repeats the same thing. But in both places he says *timber-trees*; and he is right; for the *Shukpa* (*Shug-pa*) is too small a tree to yield timber, although, if not held sacred, it might yield wood for boxes. Capt. Madden should have recollected that the *Ser-shing* had been first described by Moorcroft, and was therefore named *Elæagnus Moorcroftii*.

ripens its mature in the hot summer sun of 511
the highland plateaus up to a height of approximately 3,500 meters. [245]

Milk is supplied by the cows, the ordinary Indian cow, the yak cow, and the dsomo, a cross between the yak bull and the ordinary [234] cow. The sheep and the goats supply meat for those whose Buddhistic conscience permits it. Wool for spinning and weaving is derived from [236]. the sheep, but in this case additional coarse wool must be bought from the merchant, since the yield from the shearing of their own herd is not sufficient. The goats and the yaks yield the coarse wool for the weaving of blankets, coarse carpets, sackcloth, and for the making of string.

If the Tibetan farmer is thus to a great extent self-sufficient 437 there nevertheless remains a large number of items that belong to the necessities of life with him and which he must buy. He cannot keep up with the consumption of butter because of the great amounts he uses in the preparation of the butter tea. He buys butter from traveling merchants; this butter is sewn into goat hides and often leaves a great deal to be desired so far as its cleanliness is concerned. Salt, which is in great demand with him, he obtains in exchange for grain or dried apricots, from the nomads of the upland plateaus of Rupchu or Jangtang. These nomads break the salt from the numerous /120/ dried-up salt [135] lake beds of their homeland, and through a long, laborious journey they have their sheep and goats carry it on their backs in small sacks, in order to purchase with it in exchange trade the above-named goods and other merchandise in the neighboring provinces of Ladakh, Spiti, Lahul, and Sangskar. The highly coveted natron (used as addition to the butter tea) is likewise supplied by these upland plateaus where in many places it is found as a residue of dried-up salt water lakes. From 439 the Indian merchant the Tibetan buys Indian tea, spices, dye stuffs to dye the cloth, cotton cloth from Indian and English cottonmills (Manchester), European blue, brown, or red cloth for festive clothes, sashes, as well as all kinds of tools, combs made of hardwood, mirrors, knives, sewing materials, cheap standard clocks, soap, candies, tobacco, and many other items.

In the house of the Dragshos order and industrious work were 461 always held to be very important. From the early spring until well into the late autumn they arose together with the sun and went to work, which usually was not stopped till the sun went down, and frequently much later when darkness was setting in.

The plowing of the fields was done by the master of the house, 241 as was the custom with all farmers; the watering and weeding was done 462

FARMERS AND FARMING IN LADAKH (TIBETAN KASHMIR)

By WALTER ASBOE

AN account of the cultivation of cereals in Ladakh presupposes a climate for their growth, bearing in mind the high altitude at which these cereals can thrive. In this lofty region of 10,000 to 14,000 feet above sea-level it is amazing that anything grows at all.

The country is one vast expanse of sandy plain and deep-cut valleys formed by colossal mountains and swift-flowing rivers. Upon the great plateaux large flocks of sheep laden with wool, borax, and salt move slowly over the tawny sand, raising clouds of dust as they proceed to the wool-clearing centre at Leh, the capital of Ladakh. It is also from these elevated regions that the famous shawl wool generally known as Pashmina comes, its final destination being Kashmir. Dropping down from the arid plateaus of Rupshu to the valleys of the Indus and its tributaries, you come to the many hamlets snuggling in the shelter of great cliffs and rocky eminences, forming with the arable land around them patches of vegetation resembling an oasis in the midst of a desert of rock and sand.

The climate of Ladakh is favourable to the growth of cereals and is a useful ally to the peasant living at high altitudes and subsisting on produce cultivated in ground which looks sterile and unpromising. Very little rain falls in Ladakh owing to the precipitation in the lower hills in the region of the Zogi Pass, which peters out by the time the higher altitudes are reached. The farmer has therefore to irrigate his fields artificially from rivers, mountain torrents derived from melting glaciers and the winter accumulations of snow. He is saved from the heart-breaking frustration of the English farmer, who must contend with capricious weather which so often ruins his crops just when he is ready to reap them. In Ladakh the peasant knows that the good weather of to-day will be followed by good weather to-morrow, so that he is saved much worry and extra work.

Frost and snow or sleet begin in September and continue in different districts without intermission until the beginning of May. The minimum temperature from December until February falls to −5° to −12° F., and there is no month in the year when there is not an occasional snowfall on the summits of the mountains. The intense cold of winter is mitigated by a dry atmosphere, clear skies, and a sun which warms provided that you remain in its direct rays. The average temperature in the shade during summer is about 75° to 80°. Thus the shortness of the summer is compensated for by the powerful rays of the sun, which ripen the grain rapidly.

The various meteorological processes which combine to form a climate are, as everyone knows, generated by the sun. It is therefore not sur-

1; Drew G-3 (1862-1872) 1875 AV1 Kashmir
W. Tibetans AJ 4

high; in one of these [illegible] whole family. The sheep
231 and goats are very numerous. At evening time one sees the
236 flocks and the herds coming down the hill-side and collecting at
[492] the encampment by hundreds, and even thousands. The sheep is of a large kind; it is here made use of for carrying loads; the salt from the lake is carried out of and grain is brought into the country on the backs of sheep; a small pack or double bag is made to hang over the back, filled to an average weight of 24 lbs.; the stronger animals will be loaded up to 32 lbs. The larger of the two kinds of goat kept here is made use of in just the same
[438] way. The more general is the shawl-wool goat, a small long-haired species; the kids of this sort are beautiful little animals. The wool that goes to make the soft fabrics of Kashmir is an undergrowth at the root of the long hair of these smaller goats. It comes in winter time, not only to the goats but to the yāks, dogs, and other animals, domestic and wild both, as a protection against the severe cold. At the beginning of summer the wool grows out or loosens; it is then combed out from the goats and sent to Leh, where it is picked free from hairs and either worked up or sent on to Kashmir. It must not be supposed that the greater part of the shawl-wool used in Kashmir comes from Rupshu; the greater quantity and that of better quality comes either from the Chinese districts beyond the boundary of Ladākh, or from the Amīr of
231 Kāshgar's country. The horned cattle are all of the
492 yāk species. In Rupshu, as far as I know, there is neither the cow nor any of the hybrids of yāk and cow. The yāk is a half-wild, not easily tractable, beast; his numbers are not very large in Rupshu; there may be 400 or 500 head. The yāk's duty is that of a load carrier. The Rupshu people do not carry loads on their backs like the Ladākhīs, they depend entirely on their cattle, on their sheep and goats for merchandise that is easily divisible, on their yāks for that of larger bulk. In this
439 way the Rupshu people are great carriers. Between Central
492 Ladākh on the one hand and Gār in Chinese Tibet or Lāhul in the British country on the other, they are kept well employed in helping forward merchants' goods. For this service they get good

[i.e. in Rupshu -- Analyst]

2: Gervis T-3 (no date) 1954 AV1 Kashmir AV1
W. Tibetans AJ 4

a kind of barley known as grim; from this, *chang*, the drink of the people is made; it has a sour odour. The fruit trees bear apricots, apples and mulberries. 241

The zho is the animal most used for riding, being quieter than the yak, though they are not nearly as strong as the yak which is a big brute, with great head, short horns, and covered with dark brown hair. It is a strange creature, for just as a horse will stretch down its neck and bite at some grass as it goes along, so the yak when being driven through the snow, will take a mouthful and make a loud grunting noise, a characteristic which it does not pass on to its half-breed son; for the zho does not grunt, it grinds its teeth in a strange manner, a sound which one either comes to put up with and does not notice, or is nearly driven mad by. 231 492

Practically all the animals in Ladakh grow an undercoat of fine down in the winter time, even the small horses. It is that from the Ladakhi goat which is exported to Kashmir for the making of the famous pashmina shawls, and through Ladakh pass caravans carrying it there from Kashgar. In calling it "pashmina", they have without doubt corrupted and used the Russian word "pushmina". Here in Leh, were to be bought soft blankets of brown and black wool, which are probably made from the undercoat of the zho, the yak, and maybe the little mountain pony. 236 439

The people's food is simple. Meat is too expensive for the poor to eat except on festive occasions. Mostly they eat thick barley cakes or barley meal in a broth of turnips heavily salted. Like the Kashmiri they have their own way of making tea; strong tea is mixed with soda, and then salted and churned with butter until the whole becomes creamlike in its thickness. 262 272

Religion is the greatest power in the lives of the people. They are Buddhists, practising a form known in Tibet and referred to as Lamaism; a religion which dominates their lives, promising every true follower the bliss of Nirvana; faith which, the Abbot of one of the monasteries told me, "teaches compassion, courtesy, kindliness, truthfulness, loyalty, politeness in word, cheerfulness and good humour". And from what I saw of them I should imagine that many of these qualities are to be found in the majority of the people in a land where murders 771 779